

R E M A R K S

Claim 61 has been amended to depend from claim 60, thereby overcoming the objection raised by the Examiner.

The rejection of claims 60 and 62 under 35 USC 102(e) based on being anticipated by Han et al (USP 5,808,923) is respectfully traversed.

Claims 60 and 62 have been amended to expressly indicate that each of the multiple digital data streams has a level range expressed by the number of bits and each of the claims now include the step of: “reducing the number of bits expressing the level ranges of all the multiple digital data streams to compress digital data of all of the multiple digital data streams”.

Moreover, claim 62 has been further amended in that the step of recovering the original maximum levels also include the original level ranges of the multiple digital data streams which are recovered by adjusting maximum levels and level ranges thereof in response to the level-shift control data decoded.

For all of the above reasons, claims 60 and 62, as amended, clearly differentiate the subject invention from the teaching of Han et al and the rejection under 35 USC 102(e) should be withdrawn.

The rejection of claim 61 under 35 USC 103(a) as being unpatentable over Han et al in view of Doi et al is respectfully traversed.

Claim 61 depends from claim 60 and is believed to be patentable for all of the reasons given heretofore.

Furthermore, according to the present invention, levels of the multiple channel PCM audio data (multiple digital data streams) are shifted up by the amount of levels determined according to the level shifted control data corresponding to the

maximum level of the multiple channel PCM audio data (see Figs. 16, 17A and 17B, page 45, lines 15-24, and page 47, line 8 to page 48, line 10).

Additionally, a level range expressed by the number of bits of each channel of the PCM audio data is reduced and the multiple channel PCM audio data are compressed at the same time when the level of the multiple channel PCM audio data are shifted as mentioned above (see Figs. 16, 17A and 17B, page 45, lines 15-24 and page 47, line 8 to page 48, line 10).

The original PCM digital audio signals are automatically reproduced at the original levels in case the original PCM digital audio signals are transmitted by shifting their levels (see page 58, line 19 to page 59, line 5).

In addition, each channel of the PCM audio data enables to be transmitted by smaller number of bits and an amount of transmission (recording) data enables to be reduced in response to compressing the data by reducing a level range expressed by the number of bits of each channel of the PCM audio data.

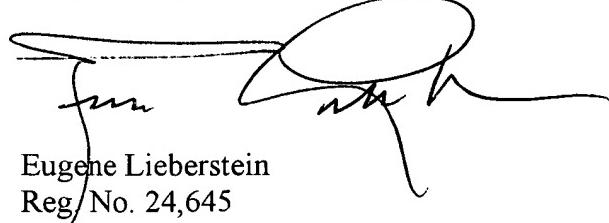
In contrast, Han et al (USP 5,808,923) teaches operations in MPEG-2 layer 1 and 2 multichannel audio decoder and particularly, teaches a multiplication operation called “denormalization” that restores a signal normalized into a specified level to its original level (Col. 1, lines 19-31).

Doi et al (USP 4,644,546) teaches that it may be necessary to occasionally transmit error protection data in addition to the digital audio sample data. However, neither Han et al nor Doi et al discloses the configurations of the present invention as mentioned above such that original PCM digital audio signals are automatically reproduced at the original levels, and that each channel of the PCM audio data may be transmitted by smaller number of bits and an amount of transmission (recording) data may be reduced.

For all of the above reasons, claims 60-62 are clearly patentable over the cited references taken individually or in combination.

Reconsideration and allowance of claims 60-62 is respectfully solicited.

Respectfully submitted,



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Date: April 25, 2005